

Claims Listed:

1-5 (Cancelled)

6. (Original) A polynucleotide which encodes a protein having core 1 β 3-galactosyl transferase specific molecular chaperone activity, comprising:

- (A) a coding portion of at least one of SEQ ID NO:2, SEQ ID NO: 4, SEQ ID NO: 6, or SEQ ID NO: 8;
- (B) a polynucleotide which hybridizes with a coding portion of SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, or SEQ ID NO: 8 under stringency conditions comprising prehybridization and hybridization at 68°C followed by washing twice with two x SSC, 0.1% SDS at 22°C, and washing twice with 0.2 x SSC, 0.1% SDS at 22°C; or prehybridization and hybridization at 42°C in 5 x SSPE, 0.3% SDS, 200 ug/ml sheared and denatured salmon sperm DNA, and 25% formamide, or 35% formamide, or 50% formamide, and washing with 2 x SSC, 0.2% SDS at 50°C. And which has core 1 β 3-galactosyl transferase specific molecular chaperone activity;
- (C) a polynucleotide which differs in nucleotide sequence from the isolated polynucleotides of (A) above due to degeneracy of the genetic code and which encodes a protein having core 1 β 3-galactosyl transferase specific molecular chaperone activity; or
- (D) a polynucleotide which differs in nucleotide sequence from the polynucleotides of (A), (B) or (C) in that said polynucleotide lacks a nucleotide sequence which encodes a transmembrane domain wherein the core 1 β 3-galactosyl transferase specific molecular chaperone encoded is soluble.

7. (Original) The polynucleotide of claim 6 wherein the polynucleotide is DNA.

8. (Original) A vector containing the polynucleotide of claim 6.

9. (Original) A host cell transformed or transfected with the vector of claim 8.

10. (Original) The host cell of claim 9 wherein the polynucleotide is operatively associated with an expression control sequence.

11. (Original) The host cell of claim 9 transformed or transfected with an expressible polynucleotide encoding a peptide or polypeptide requiring post-translational glycosylation to form a core 1 structure.

12. (Original) The host cell of claim 11 wherein the peptide or polypeptide requiring post-translational glycosylation to form a core 1 structure comprises P-selectin glycoprotein ligand-1 or a portion thereof which has P-selectin binding activity.

13. (Original) A process for producing a purified core 1 β 3-galactosyl transferase specific molecular chaperone comprising the steps of:

culturing the host cell of claim 9 thereby expressing the core 1 β 3-galactosyl transferase specific molecular chaperone; and
purifying the core 1 β 3-galactosyl transferase specific molecular chaperone from the cultured host cell.

14. (Original) The process of claim 13 wherein the core 1 β 3-galactosyl transferase specific molecular chaperone is soluble.

15. (Original) A process for producing a purified protein or peptide requiring post translational glycosylation having a core 1 structure, comprising the steps of:

culturing a host cell having an expressible polynucleotide encoding a peptide or polypeptide requiring post-translational glycosylation to form a core 1 structure, the host cell transformed or transfected with an expressible polynucleotide encoding core 1 β 3 galactosyl transferase, and with the vector of claim 8;

expressing in the cultured host cell the core 1 β 3 galactosyl transferase, the core 1 β 3-galactosyl transferase specific molecular chaperone, activity, and the protein or peptide requiring post translational glycosylation, thereby forming a glycosylated protein or peptide having a core 1 structure; and

purifying the protein or peptide having the core 1 structure.

16.(Cancelled)

17. (Currently Amended) An expression system comprising:

A recombinant host cell comprising:

an expressible polynucleotide which encodes a core 1 β 3-galactosyl transferase; and

an expressible polynucleotide which encodes a core 1 β 3-galactosyl transferase specific molecular

chaperone for expressing an active core 1 β 3-galactosyl transferase.

18. (Original) The expression system of claim 17 wherein the expressible polynucleotide which encodes a core 1 β 3-galactosyl transferase specific molecular chaperone comprises a coding sequence of SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, or SEQ ID NO: 8.

19-20. (Cancelled)

21. (Currently amended) A recombinant host cell comprising a polynucleotide encoding a core 1 β 3 galactosyl transferase specific molecular chaperone.

22. (New) The expression system of claim 17 wherein the expressible polynucleotide which encodes a core 1 β 3-galactosyl transferase specific molecular chaperone encodes a mammalian core 1 β 3-galactosyl transferase specific molecular chaperone.

23. (New) The recombinant host cell of claim 21 wherein the core 1 β 3-galactosyl transferase specific molecular chaperone is mammalian.